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PRE-APPEAL BRIEF REQUEST FOR REVIEW

Docket Number (Optional)

DEMI P009

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on March 19, 2008Signature FILED VIA EFSTyped or printed name FILED VIA EFS

Application Number

10/007,002

Filed

November 30, 2001

First Named Inventor

Michael Neal et al.

Art Unit

3629

Examiner

Ruhl, Dennis William

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

I am the

☐ applicant/inventor.
/Kang S. Lim/

Signature

☐ assignee of record of the entire interest.

See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.
(Form PTO/SB/96)

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Registration number if acting under 37 CFR 1.34 _____

March 19, 2008

Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

☐ *Total of _____ forms are submitted.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

PATENT

In re application of: Neal et al.

Attorney Docket No.: DEM1P009

Application No.: 10/007,002

Examiner: Ruhl, Dennis William

Filed: November 30, 2001

Group: 3629

Title: RULE RELAXATION AND SUBSET
OPTIMIZATION SYSTEM

Confirmation No.: 9261

March 19, 2008

FILED VIA EFS

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Mail Stop: AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Appellants hereby request review of the decision of the primary examiner mailed November 19, 2007. The Pre-Appeal Panel is thanked for their review of the application.

Claims 1-4, 9, 14-19 and 25-30 are currently pending. The present application has been twice rejected under 35 U.S.C. 102(b) as being unpatentable over Reuhl et al. (US 5,873,069).

Appellants respectfully request a pre-appeal brief review of the present application in light of the arguments raised herein. For the sake of brevity, Appellants respectfully direct the review panel to, and incorporates by reference, Appellants' August 20, 2007 response, for a complete listing of claims, as well as additional arguments for allowability that were unable to be included in this Pre-Appeal Brief for lack of adequate space.

Regarding Claims 1 and 14, Appellants assert that the "prioritize[ing] the plurality of relaxable rules. . . identifying at least one lower priority infeasible rule from the plurality of relaxable rules . . . incrementally relax[ing] any infeasible rule of the plurality of relaxable rules

which has a lower priority than the at least one lower priority infeasible rule, enabling the at least one lower priority infeasible rule to become feasible; [and] optimiz[ing] prices for products in the subset of products, while maintaining the initial prices of all other products of the plurality of products, and wherein the optimizing of prices complies with the relaxed any infeasible rule of the plurality of rules" of Claims 1 and 14 is novel and non-obvious over the cited art.

The Examiner, in support for his rejection, stated that "Reuhl discloses a method and system [that] 'optimizes' (optimization engine) the prices of numerous products based on the inputted sales data. . . . The system is optimizing in the sense that they are making the system determine the best price, which to Reuhl, is the lowest price."

Appellants respectfully disagree with the Examiner's statement for a multitude of reasons, as will be explored in more detail below.

First of all, Reuhl does not appear to teach a method of price optimization as claimed. Instead, Reuhl appears to simply reduce prices below competitors' prices, and ending in the digit "9", i.e. \$1.99. (Column 6, lines 31-35, Column 11, lines 34-43 and Column 12, lines 34-37). Reuhl's system of price setting is single-faceted, whereas the present invention is multi-faceted, and capable of providing an array of configurable optimization objectives, including "total profit, sales volume, and revenue." See Claim 3; also see page 9, lines 9-19, page 10, lines 12-13, page 15, line 17, and page 17 lines 3-10 of the Specification as filed.

Secondly, the examiner states that Reuhl includes a plurality of rules that are prioritized. Applicants respectfully disagree because Reuhl appears to have only two criteria (1) the last digit ending in a nine, and (2) a lower price than the competitor. These criteria are static. For Reuhl to function both of these conditions must be actualized. As such, Applicants believe that Reuhl does not teach or suggest the "prioritize[ing] the plurality of relaxable rules" as claimed in Claims 1 and 14.

Moreover, even if one were to consider Reuhl as disclosing a plurality of rules, Appellants assert that Reuhl does not disclose "set[ing] a plurality of relaxable rules, wherein the plurality of relaxable rules is set utilizing rule parameters, wherein the rule editor utilizes default values of the rule parameters, and further wherein the rule editor enables configuring of the rule

parameters by a user” of Claims 1 and 14. In response, the Examiner stated he “considers this to be inherent to Reuhl . . . In Reuhl a person had to program the system and write the computer program that runs the optimization. All computer programs are capable of being edited and changed if one desired to do so. In Reuhl there is an inherent ability to set the rules any way a user wants, **you just need to change the programming.**” (Emphasis added). The Examiner’s mere statement of opinion that this limitation is inherent to Reuhl is unfounded and unsupported. “To serve as an anticipation when the reference is silent about the asserted inherent characteristic, such gap in the reference may be filled with recourse to extrinsic evidence. Such evidence must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill.” *Continental Can Co. USA v. Monsanto Co.*, 948 F.2d 1264, 1268, 20 USPQ2d 1746, 1749 (Fed. Cir. 1991). Appellants believe that Reuhl is not enabled to have dynamic rule configuration as claimed. Nor does Reuhl teach or suggest rule editing.

Regarding Claims 2 and 15, Appellants assert that the “[enabling] a number N to be designated, and [selecting] no more than N products of the plurality of products to form the subset of products, and wherein the selected no more than N products has the largest impact on the optimization of prices of any subset . . . and further wherein the largest impact on the optimization is determined by ranking all products by a marginal contribution to the optimization and selecting the no more than N products by a mixed integer problem” of Claims 2 and 15 is novel and non-obvious over the cited art.

The Examiner, in support for his rejection, stated that “[i]n the opinion of the examiner all that is claimed is the ability to designate a number N or allowing a number to be designated (which is not even actually designate, just allowing it to occur). The manner by which the number is determined is not given much weight because this can be done by the person and not the system.” Appellants believe that the Examiner is mistaken. The claim clearly states 1) a number is designated, 2) a subset of products is selected, wherein the subset includes up to that number of products, and 3) the method of product selection (i.e. mixed integer problem).

This ability to perform subset optimization is crucial in instances where total inventories are large, and changing prices requires significant logistics and man-hours, such as in a retail setting. Appellants believe that the Examiner's cursory dismissal of these claims is erroneous. Furthermore, Appellants believe that Reuhl does not contemplate product subset selection as in Claims 2 and 15 of the present invention.

Additionally, the Examiner rejected claims 1-4, 9, 25, 26, 29 under 35 U.S.C. 112, first paragraph. In particular, the Examiner stated that "the limitation that the rule prioritizer is configured to 'prioritize' a plurality of relaxable rules is considered to be new matter."

Appellants disagree that this is new matter. In the specification as originally filed, Claim 8 stated "computer readable code for allowing the prioritization of a plurality of rules". Moreover, the method of prioritization is defined within the specification as filed at page 21, lines 14-16 stating that "rules are prioritized (step 604). A default prioritization may be provided, with an interface, which may allow a user to change the prioritization from the default." Also see figure 6, and page 22, lines 14-18 in the specification as filed. Appellants believe this disclosure in the original application adequately covers this material, and thus it is not new.

Furthermore, the Examiner rejected claims 2 and 15 under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement, and under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, the Examiner stated that "*ranking all products by a marginal contribution to the optimization and selecting no more than N products by a mixed integer* [requires] that one of skill in the art would have to undergo undue experimentation to practice the claimed invention."

Support for dependent Claims 2 and 15 may be found in page 27, lines 10-19 of the Specification as filed, which states that "[t]he subset optimization may choose the products that **comprise this subset in a way that has the largest impact on the client's objective function.** If, for example, the client's objective is to maximize profit, it is desirable to populate the subset of products whose prices are allowed to change with those products that are most likely to have the largest impact on profit. In one way of doing this, **all of the available products may be**

ranked by their marginal contribution to the objective and then the subset of products whose prices are allowed to change is selected via mixed integer program. . .” (Emphasis Added). Support may also be found in page 33, lines 5-23 of the Specification as filed, which states that “[i]n selecting the N products that will comprise the set of products, R, which are allowed to have price changes in the subset optimization, a simple mixed integer problem is solved. A binary variable, r_k , is created that indicates whether or not a given product is chosen to become a member of R. An objective function is the sum of these binary variables weighted by the maximum marginal value on each product’s price obtained in the step of constructing the set of candidates for subset optimization . . . This problem can be written as $\text{Max}_{r'} \left[\sum_{k \in C} r_k \cdot \text{Max}(\lambda_k^l | \lambda_k^u) \right]$ subject to $\sum_{k \in C} r_k \leq n$. The set of products, R, may be defined to be considered in subset optimization as $k \in R : \{(k \in C | r_k = 1) \cup (k \in C | k \text{ has change in state})\}$ ” Also at page 30, lines 13-14 which states “ λ_k^u and λ_k^l are defined as the marginal values on the upper and lower bounds defined in the final inequality constraints.” Appellants believe that this completely enables, and specifically defines Claims 2 and 15.

In sum, Appellants believe that all pending Claims 1-4, 9, 14-19 and 25-30 are allowable over the cited art and are also in allowable form and respectfully request a Notice of Allowance for this application from the Pre-Appeal Panel. The commissioner is authorized to charge any fees that may be due to our Deposit Account No. 50-2766 (Order No. DEM1P009). Should the Pre-Appeal Panel believe that a telephone conference would expedite the prosecution of this application; the undersigned can be reached at telephone number 925-570-8198.

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Respectfully submitted,

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